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Winchester, is as yet doubtful. Sure it is, that he, having spent some time in this University, [Oxford] left it without the honour of a degree, and retiring to the court of king Henry VIII, was made groom of the robes to him, and when that king died, he left him in his will 100 marks. Afterwards he continued in that office under king Edward VI, at which time he was in some esteem in the royal court for his grave vein in poetry and other trivial learning. But being a most zealous reformer, and a very strict liver, he became so scandalized at the amorous and obscene songs used in the court, that he, forsooth, turned into English metre, fifty-one of David's psalms, and caused musical notes to be set to them, thinking, thereby, that the courtiers would sing them instead of their sonnets; but [they] did not, only some few excepted. However, the poetry and musick being admirable, and the best that was made and composed in those times, they were thought fit afterwards to be sung in all parochial churches, as they do continue: *—What other poetry or what prose this our poet, Sternhold, hath composed, and left behind, I know not, nor any thing else of him, only that he died in London or Westminster, in 1549.

“Contemporary with Sternhold was Joh. Hopkyns, who is styled to be *Britanicarum poetarum sui temporis non infimus*, as, indeed, by the generality living in the reign of Edward VI, he was so, if not more, esteemed. He turned into metre fifty-eight of David's psalms, which are, to this day, sung in churches.—Athen. Oxon. Vol. I. p. 62

FOR THE NORTH-AMERICAN JOURNAL.

Ancient Persian Bricks.

CAPTAIN HENRY AUSTEN, impelled by a spirit of very enlightened and intrepid enterprise, has undertaken two expeditions to Persia, which he has commanded himself, for the purpose of exploring some new sources of commerce. From the latter of these he has lately returned, and

* The Athen. Oxon. was printed in 1691.

brought with him some bricks, cement and reeds, which he took from ancient ruins on the banks of the Euphrates, up which river he penetrated a long distance in his boat. As these bricks have excited considerable curiosity, and their inscriptions have long puzzled the learned, a collection of opinions respecting them cannot be uninteresting. In the first place the remarks of Mr. Austen, extracted from a letter, published in the *Boston Intelligencer*, will introduce the subject.

“Since we parted, I have visited, besides a great number of places further east, the Isle of France, Bombay, Damaun, Surat, (Crotchy, Sind, Mandivee,) Muscat in Arabia, Busheer in Persia, Bassora on the Euphrates, Bagdad on the Tigris, and several small towns on the same river. I have kept a journal, but it would be as difficult for any one except myself to decipher it, as to translate the inscriptions upon the bricks from Babylon. Before long, I hope it may be in my power to bring it to you in person, and to explain what you may find unintelligible or imperfect.—In the mean time, I send you a very slight and hasty notice of some of the incidents of one of my excursions.

“I left the ship and the accompanying vessel under three hearty cheers from both, in a large river boat of the natives. It had a spacious cabin, which was covered with a carpet. I took twenty *trackers*, as they are called, by whom we were dragged, night and day, at the rate of four miles an hour, against the stream and the wind. I took also a mounted howitzer, and four of my own seamen to work it: twelve Sepoys; a native for a cook; and a Persee for a servant, with every thing necessary to make us comfortable.

“The great valley of the Euphrates is an extensive plain of alluvial earth. This river I ascended far above its junction with the Tigris, and there endeavoured to pass, by a natural crooked canal, through the neck of land or hardened mud, which separates the two rivers. After forcing the boat over several shoals, and extricating ourselves by the guidance of the sheep-feeders, from a labyrinth of creeks, we were about equidistant from the two rivers, unable to get our boat one way or the other, in consequence of the water having fallen. This channel is dry in the

summer. We were detained two days, and then procured three canoes, in which I embarked with my guide and suite. Our large boat, thus lightened, returned to Bas-sora.

“ You may perhaps wish me to be more particular. The bank of the river, during the journey of the first day, showed some detached pieces of land in strips, which were defended by dykes, watered at pleasure, and rendered very fruitful. On the second day, a level waste was presented to our view, which was washed by the floods of the river in the spring, and baked to the firmness of brick in the summer. In the course of the third, we passed the head quarters of the most powerful sheik of the desert, near to whose palace of reeds were extensive dykes of mud and date leaves, for ten or twelve miles along the river, an evidence of the stimulating effect of scarcity upon the dormant industry of the Arabs. Here were fields of rice and barley, peaches, almonds, and pistachios in blossom; rude water works to irrigate the land in the low state of the river; and sufficient demonstration that this wide spread desert is capable of being converted into a fruitful garden, as in times long past it has been, by the regular efforts of an industrious population. After this day, we saw no more the appearance of cultivation, security or comfort, excepting here and there some small patches enclosed by mud walls, the poor results of the labours of single families to reclaim, from barrenness, a portion of the soil for their own subsistence. The general face of the country is flat, with scarcely any vegetation upon it, and but a few scattered wanderers feeding their sheep upon the scanty product of blighted grass, which grows upon the elevated land that bounds the river and its creeks. The habitations of these vagrants are made of mats, or the black cloth which is formed of goats hair. Their condition is extremely wretched, and they are more filthy than any people I ever saw.

“ After spending four days in our canoes, we reached Coot on the Tigris, a place which has the appearance of a ruined brick kiln, half washed down by the rain. Here we discovered high land far distant in the east, the first we had seen since we entered the river. We were able now to procure some miserable horses; and travelling four days

through the desert, we arrived at Bagdad. This route led us principally over baked clay, cracked into innumerable fissures, with now and then a spot of withered grass, where a few stragglers had their black tents, and fed their sheep and goats. We slept with them, and found such swarms of other guests as soon dissipated the charm which poetry gives to pastoral life, and left us but little inclined to envy the pleasures of a Chaldean shepherd. Our progress for forty miles was through the ruins of cities of ancient date. The ranges of decayed walls were frequent, and we often saw solid masses in the bank of the river. The soil was filled with well burnt bricks, tiles, and glass. Such testimony of departed population, activity, wealth, prosperity, and all the sympathies of domestick and social life, contrasted with the total desolation of the present hour, gave rise to melancholy reflections upon the revolutions of cities and states. Here industry once applied its hand, not only to the attainment of subsistence, but to the perfection of the arts; houses and palaces rose with their comforts and their splendour; enterprise was bold and successful; competition stimulated invention, and multiplied virtues and blessings; hope was prodigal in promises and pleasures; and the glory of the country seemed to be only a vision of increasing brightness. But how are the mighty fallen! The promise and the fulfilment are too mortifying to our pride to permit me to dwell upon the subject, and to prolong the train of thoughts and feelings, upon which the mind so naturally enters. A single consolation, however, is sufficient to revive our conviction of the value of society and our efforts, that where one nation sinks, many others rise and flourish. If the Euphrates and the Nile mourn, as they flow, over departed greatness, the Thames, the Seine, the Hudson, and the Delaware, may contemplate a long perspective of art, science, glory, and enjoyment.

“ From this course of reflection, I find the transition difficult to the details which still remain for my letter. I cannot, however, omit them. The bricks from Babylon, of which I spoke to you in my last, are covered on one side with mortar, and on the other the inscription is clear, and the form of the characters definite. A specimen will be presented to the Boston Atheneum, one to the New-York Philosophical Society, one to Yale College, and the others

will be sent to Washington. A portion of the reeds, used in the construction of ancient walls, will accompany the bricks. A friend has procured for me a good Chinese dictionary from the imperial press of Napoleon. After much search, we find several characters nearly, and some exactly corresponding to those on the bricks. The remains of ancient fortifications in the western country bear some resemblance to the ruins through which I passed, except the soil which is collected over the former. Perhaps by digging deep into them, some discoveries might be made, which would illustrate the origin of what is considered as the aboriginal population of America, at least if the supposition has any probability that our Indians came from Asia.

“Perfect views of the ruins of the palace of Noushinaar, and of Nimrod’s Tower, are formed by two of my friends from sketches, and from measurements, which I took on the spot. I shall shew them to you hereafter, and you will have almost as good an idea of their external appearance as if you had been there.”

In the *Monthly Magazine* for August 1801, there are some remarks by Dr. Hager, on some Babylonian bricks brought to England, about that time, and an engraving is given, which differs a little from the inscriptions on those brought here. The following is the communication of Dr. Hager, and the next article is from the same *Journal*, for February 1802.

“About a day’s journey from Shiras, in Persia, appear the ruins of a magnificent edifice, which still attracts the admiration of every traveller. These ruins are called by the Persians Chehil-Minar; or, The Forty Columns, although there are always more or less to be seen than that number. The following travellers, Ives, Irwin, Figueroa, Pietro della Valle, Thevenot, Chardin, Gemelli, Le Bruyn, Kämpfer, Otter, Niebuhr, and Franklin, have actually visited them; and among writers, the following—Hyde, Caylus, Murr, Langles, Herder, Witte, Wahl, Hageman, besides a number of others, have spoken of them; and several have attempted to explain the copious sculptures, which are still visible on them. But it is chiefly the fo-

reign and unusual characters and inscriptions joined to them, which have long occupied the skill and exercised the penetration of many learned Orientalists, who have wearied themselves in fruitless attempts to discover the alphabet out of which they are composed.

“These remarkable inscriptions appear to be regular variations and compositions of a right line, as Sir W. Jones well observes; and of an angular figure. They have, likewise, a striking resemblance to nails, for which reason the French writers commonly called them, *caractères à cloux*, or the nail-headed characters. They are also denominated Persepolitan, upon the supposition that these columns once formed a part of the royal palace of the sovereigns of Persia, called, by the Greek writers, Persepolis. Among others, this opinion is advanced by the learned M. Heessen, professor at Göttingen, in a work lately published on that subject; an opinion, however, which Mr. Tychsen attempts to refute, who supposes the palace, the ruins of which still remain, to have been built much later, by the princes who succeeded Alexander, and governed that country under the name of the Arsacides and Arsacidæ. Whether this be the case or not, or whether these ruins date from the time of the first and most ancient dynasty of Persia, the Pishdadiäns, or whether, as others pretend, they were built by the famous Gemshid, who is said to have built the celebrated city of Issahar, is not the object of our present inquiry. It is most certain that the place of the inscriptions is to this day called Issahar, and also Tahti-Gemshid, or the Throne of Gemshid; and it is equally certain that the above-said inscriptions have been hitherto reckoned peculiar to these ruins; at least it is the general opinion of the literati, that they are only to be found on the marbles or gems dug up there, and not in any other part or province of Persia. More recently, however, the curious discovery has been made, that the same sort of characters are to be found, not only in the province of Fars, in Persia, but that they are copiously and usually met with near the Euphrates, in Chaldea, amongst what are supposed to be the ruins of its ancient capital, Babylon. This fact was, indeed, announced several years ago by M. Beauchamp, Correspondent of the Royal Academy of Sciences at Paris, who, on his return

from Bagdad, where he had resided several years, brought to the learned Abbé Barthelemy, specimens of unknown characters, which he discovered on the bricks, still remaining in great numbers near Helleh, on the Euphrates, on the identical spot where, according to D'Anville, Major Rennel, and other geographers, the ancient Babylon was situated. Besides these bricks with inscriptions, M. Beauchamp likewise found several solid cylinders, three inches in diameter, composed of a white substance, and covered with very small writing, resembling the inscriptions of Persepolis, as described by Chardin ; also a number of blue stones with inscriptions engraved on them. M. Beauchamp's correspondence was translated from the French of the *Journal des Scavans*, published in the year 1782, into English, and inserted in the *European Magazine* for 1792.

“M. Michaux also, a French botanist, (the same who has now again accompanied Captain Baudin in his voyage of discoveries) during the time of his being at Bagdad, procured, and lately brought to Paris, a fine inscription, which was found in that neighbourhood, and which contained characters resembling the Persepolitan ones. Of this inscription, M. Millin, the present keeper of the Cabinet of Antiquities, has procured a plaster cast to be made, which is one foot and a half long, and one foot broad, for the purpose of sending copies for the inspection of the foreign literati ; and one of these is expected to arrive soon in London.

“Our curiosity, however, is now still further and sufficiently excited by the twelve original bricks, which have lately arrived in London, sent from Bagdad to the East India Company, and which contain inscriptions perfectly according with the Persepolitan ones, thus confirming M. Beauchamp's discovery. They are of two different kinds ; one of those which were merely dried in the sun, the other of those which, like ours, were baked in a furnace. This circumstance wonderfully corresponds with the account given by Herodotus in his first book, in which he relates, that Babylon being in a situation deprived of stones, timber, and other materials for building, nature had abundantly provided for this defect by an inexhaustible store of clay, of the best quality, fit for preparing excellent

bricks, which, either dried in the sun or burnt on the fire, acquired a strength sufficient to resist the injury even of many centuries. These bricks are in thickness three inches; their length and breadth is between twelve and thirteen inches, and it was with such bricks, that not only Babylon, but, if we may believe Josephus, the famous Tower of Babel was constructed. This last historian further pretends, that after the deluge, two columns were erected by the children of Noah; the one, like our Babylonian bricks, and the other of stone, in order to be able to resist both elements, the water and the fire, in case of a second catastrophe.

“A principal question occurs here for solution, viz. whether the above inscriptions are to be read horizontally, and beginning from the left hand, like the characters of the Sanscrit, and other languages of India and Europe; or whether they are to be read from the right hand to the left, like the Hebrew, the Arabick, and other Oriental dialects; whether they must be read perpendicularly, either from the top to the bottom, like the Chinese, the Mongul, and the Japanese characters; or from the bottom to the top, as is related of the ancient Mexicans, by the Jesuit Acosta, and of some nations in Asia at the present day. Niebuhr and Tychsen lean to the former opinion, viz. that they are to be read horizontally, and from the left to the right; whilst Raspe thinks they ought to be read perpendicularly, and Wahl pretends, that they run, at least sometimes, from the right to the left.

Another question, likewise, suggests itself, whether these nail-headed characters are of the alphabetick kind, like ours in Europe; whether they are of the syllabick kind, like the Habessinian, the Devanagari, and other Oriental alphabets; or lastly, whether they are hieroglyphical, like those on the Egyptian Pyramids, or, at least, expressing complete ideas by arbitrary signs, like the characters usual amongst the Chinese, and amongst a number of nations, different in language, in the south-east regions of Asia. Hyde, a hundred years ago, took them to be mere scrawlings or useless ornaments, totally destitute of any sensible signification; and, indeed, M. Witte, Professor at Rostock, in a pamphlet lately published, endeavours to prove the same; while others, again, will have it, that

they contain great mysteries, and are even denotative of the secret doctrines of the Magi. Niebuhr, who has brought to Europe the most accurate drawings of these characters hitherto procurable, contends for their being alphabetical, and, to confirm his opinion, adduces no less than three different alphabets for the same kind of writing. One of these M. Tychsen, at Rostock, has made use of, with a view to decipher a part of these inscriptions. To this notion, however, he seems to have gained no proselytes, and the explanation which he has given in his essay, lately published in Germany, appears so forced and unnatural, that it has already, in a manner, lost all credit with the German literati.

“It may be further observed here, that Colonel, now General Vallancy, in his *Irish Grammar*, published in 1773, affirmed, that the Persepolitan characters bear a strong resemblance to that species of writing, which the Irish call *Ogam*. But the characters are so complex, according to Sir W. Jones, in his dissertation on the Persians, and the variations so numerous, as to preclude an opinion that they could be symbols of articulate sounds. For even the *Nagari* system, he observes, which has more distinct letters than any one known alphabet, consists only of forty-nine single characters, two of which are mere substitutions, and four of little use in Sanscrit or in any other language; while the more complicated Persepolitan figures, as exhibited by Niebuhr, must be as numerous, at least, as the Chinese keys, which are the signs of ideas only, and none of which resemble the old Persian letters at Istahar. Thus far Sir W. Jones.

“Amongst these and other opinions, I hope soon to lay before the publick, my own, in a larger work, and, by that means if possible, throw some further light on a subject which has not been hitherto sufficiently elucidated.”

“In the dissertation with which Dr. Hager has lately favoured us on the Babylonian bricks in the possession of the East India Company, the learned writer has justly remarked, that many travellers, whose names he has given, had formerly noticed these curiosities, but the first person who had observed the inscriptions upon them, and which constitute their chief value, was Father Emanuel, in a manuscript account transmitted by him to the celebrated D’Anville,

and published in the xxviii. volume of the *Mémoires de l'Acad. des Inscriptions*; he had, therefore, never probably seen the very entertaining *Life of Peiresc*, written by Gassendi, from which I shall beg leave to extract the following curious passage:—‘He exceedingly desired, that some interpreter might be found out who could explain the *figures and characters* which were evidently to be seen upon a fragment of brick-work which was, not long before, dug up at Babylon, and sent to him; for he conjectured it was some of that brick-work, upon which Pliny tells us (from Epigenes) that the Babylonians wrote the observations which they made of the stars for seven hundred and twenty years.’ Book iv. p. 26. of Dr. Rand’s translation, 1657, 8vo.

“Before I had read Dr. Hager’s dissertation, or met with the above passage, I had found the quotation of Pliny, of which I think Dr. Hager has not made all the use he might have done; for it really seems to apply most appositely to the bricks in question, provided it could be ascertained *in what manner* those bricks were placed in the buildings now remaining at Hilla, the supposed site of ancient Babylon. I am aware that it has been asserted, that those inscribed bricks are found with the letters turned inwards, in which case, I should be inclined to adopt the opinion of those who think the characters talismanical, or even the names of the makers; but it is to be lamented, that we have not the particulars of these ruins correctly and minutely stated, with elevations and drawings of any fragments of walls or buildings that remain, except in one solitary view given us by Mr. Ives, in his voyage to India. It would also be necessary to know how many varieties of inscriptions occur on these bricks; whether *all* are inscribed, or in what proportion; and it is hoped, that the person who may be at any future time delegated by the India Company for the purpose of making further inquiries, will have the goodness to attend to these imperfect hints, or consult those who are qualified to extend or improve them; till then, all comment or further investigation should, I think, be suspended.”

The following extracts from Sir John Malcolm’s recent history of Persia, will throw some light, or perhaps dark-

ness on the subject, by shewing how nearly hopeless is the chance of having these ancient characters deciphered.

“If the *arrow-headed* character be ever deciphered, we may hope to discover many of the particulars of the history of Babylon, as well as of Persepolis ; for great numbers of bricks, of various shapes, are found at Babylon, covered with inscriptions in this character. That learned orientalist, Doctor Wilkins, has discovered, that the inscriptions which have been brought to Europe, are of two different characters ; and his observations lead to the conclusion, that this language was written from the *left* to the right.” I. 259.

“I have never been able to hear of the existence of any work in the ancient Pehlivi Language that could be deemed historical. Sir John Chardin informs us, that Abbas the Great, made every possible research after manuscripts in that language, and that he actually put one of the priests of the Guebers to death, in consequence of his disappointment. The collection made by this monarch amounted to twenty-six volumes ; and Chardin informs us, that they were lodged in the royal library at Isfahan. That respectable traveller gives us a plate, said to be taken from these volumes ; it only exhibits a specimen of the Kufick and *arrow-headed* characters. He also states, that a Gueber read to him, for three months, out of a book relating to their religion and usages, said to have been written in the time of Yezdijird. I can have no doubt that this was one of their books of Ravayat, or ordinances ; of which the Gueber priests at Yezd and at Bombay, have several.” I. 273.

“We are informed, by what are deemed the best Persian authorities, that when the Arabs invaded that country, (Persia,) they found three languages : the Farsee, Deri, and the Pehlivi ; from one or other of which, all the various dialects now spoken in Persia are derived. There were, according to some authors, seven languages in Persia ; but the Herowee, the Sückzee, the Zawulee, and Suodee (now obsolete,) appear to have been mere vulgar dialects ; they were never written.” “The *third* language, above-mentioned, is the *Pehlivi*, a word to which many meanings have been assigned ; but the most probable conjecture is, that it was derived from *Pehleh*, the ancient name of the

countries of Isfahan, Rhe and Deenawar.—The Zund is the holy language in which the Zend-a-vesta of Zoroaster is written; and his followers affirm, that it can only be known to God, angels, prophets, and enlightened priests. The sacred volume is in this language, but has a Pehlivi translation annexed." 1. 202, 203.

There is, in Pliny, a curious passage relating to these bricks, which may be found in the fifty-sixth chapter of the seventh book. "Epigenes apud Babylonios dccxx annorum observationes siderum, coctilibus laterculis inscriptas docet; gravis autor in primis—qui minimum Berosus et Critodemus cccclxxx annorum ex quo apparet eternus literarum usus." This Epigenes, according to Fabricius, was a Byzantine astronomer, who studied among the Chaldeans, and left some remarks upon comets. He is spoken of by Seneca. Montucla says it was conjectured, that he lived not long before the age of Alexander. He reduces the Chaldean observations within probable limits, extending (as Montucla remarks) a few centuries, only, before the era of Nabonassar, which commenced seven hundred and forty-seven years before the Christian era. This sober and credible narrative confirms the character given of him by Pliny. It cannot, however, be inferred, that the Babylonish bricks, recently found, contain the celestial observations mentioned by Pliny—the latter were probably on the walls of their temples, the former are buried in cement, so that the inscription is not seen.

The following is the translation of an extract from a memoir on the "Ancient position of Babylon," by the celebrated M. D'Anville; as found in the Memoirs of the French Academy for Inscriptions. Vol. 28, p. 256.

"Father Emanuel de St. Albert, a barefooted Carmelite, who was the Pope's vicar at Bagdad, (in his relation of his voyage to the Levant, the possession of which I owe to the late Duke of Orleans,) speaks, as an eye-witness, not only of the mass of ruins seen by Pietro della Valle; but also of some *other* great remains found opposite to these, and having an equal elevation; the Euphrates passing between these two sets of ruins of ancient buildings. In this place are to be seen, great portions of wall still

standing, and other portions overthrown, the structure of which is so solid, that it is scarcely possible to detach from them the flat bricks of the length of a foot and a half, which are fastened in bitumen, known to have been used as a cement in the buildings of Babylon."

Such is M. D'Anville's quotation from Father Emanuel, to which various writers have made reference, though it yields in importance to the observations made by other travellers on the same subject.

The next authority to be produced, is the learned Geographer, Major Rennel. The following extracts are from his geographical system of Herodotus.

"It may be concluded, that the uppermost stories [that is, of what is called the tower of Belus] consisted more of masonry than of earth, but the tower, chiefly of earth, which was retained in its place by a vast wall of sun-dried bricks; the outer part or facing of which, was composed of such as had undergone the operation of fire. Strabo says, that the sides of the tower were of *burnt bricks*." 363.

"Della Valle found that two sorts of bricks had been made use of; the one having been simply *dried* in the sun, the other *baked* in the furnace. Of the *latter* sort (which seem to have been employed only in such parts of the fabric, as were either the most exposed to the weather, or which required a greater solidity than the rest) these were by far the smallest proportion, and with *these*, a cement either of lime or of bitumen had been used; but the parts which he dug into, were, generally speaking, formed of sun-dried bricks. It is obvious, however, that his researches in this way must have been very much limited, both as to the number of places and the depth to which he penetrated. These bricks (if they deserve the name) were laid in *clay* mortar only; and with *this*, or with the *bricks*, themselves, broken reeds or straw had been mixed. He is, however, silent concerning any *layers* of reeds; although such have been observed by M. Beauchamp in this place, and by several others in the ruin of Aggarkuf, near Bagdad." 364.

In Niebuhr, as reported by Major Rennel, states, that "in the tract of Babel, on both sides the Euphrates, are seen

many eminences that are dug into for bricks, as well as heaps of bricks, themselves. These bricks (he says) are a foot square, and *remarkably well baked*; and having originally been laid in matter that had no degree of tenacity, they were easily separated, and that without breaking them." See Niebuhr, vol. 2, p. 235.

M. Beauchamp, also, according to Major Rennel, observes of a particular *elevation* with a flat top, seen among the ruins of Babylon, that "to come at the bricks, it is necessary to dig into the earth. They are baked with fire, and cemented with *sepht* or bitumen; and between *each* layer are found *osiers*. Above this mount, on the side of the river, are *those immense ruins*, which have served, and still serve, for the building of Helleh, an Arabian city, containing ten or twelve thousand souls. Here are found those large and thick bricks, *imprinted with unknown characters*; specimens of which I have presented to the Abbé Barthelemy. This place and the Mount of Babel, are commonly called, by the Arabs, *Makloubé*, that is, *turned topsy-turvy*. I was informed by the master-mason, employed to dig for bricks, that the places from which he procured them, were large thick *walls*, and sometimes *chambers*. He has frequently found earthen vessels; engraved marbles; and about eight years ago, a statue, as large as life, which he threw among the rubbish. On one wall of a *chamber*, he found the figures of a cow, and of the sun and moon, formed of *varnished bricks*.* Sometimes idols of clay are found, representing human figures. I found one *brick* on which was a lion; and on others a half-moon, in relief. The bricks are cemented with bitumen, except in one place, which is well preserved, where they are united by a very thin stratum of lime and sand.

"The bricks are every where of the same dimensions; one foot three lines square, by three inches thick.† Occa-

* "Diodorus (2. 1.) says, that there were drawn in *colours*, on the bricks used in building the wall of the *great palace*, various animals; also, a representation of a general hunting of wild beasts, &c. &c.—The bricks were painted before they were burnt."—Major Rennel's note.

† "Most of the bricks found at Makloubé, have *writings* on them; but it does not appear that it was meant to be read, for it is as common on bricks buried in the walls, as in those on the outside. I observed,

sionally layers of osiers in bitumen* are found, as at Babel.

"The master-mason led me along a valley, which he dug out a long while ago, to get at the bricks of a wall that, from the marks he shewed me, I guess to have been sixty feet thick. It ran perpendicularly to the bed of the river, and was probably the wall of the city. I found in it a subterranean canal, which, instead of being *arched* over, is covered with pieces of sand-stone, six or seven feet long, by three wide. These ruins extend several leagues to the north of Helleh, and incontestably mark the situation of ancient Babylon.

"On the *same side* of the city, [the eastern side,] as I was told by the master-mason, there were walls of *varnished* bricks, which he supposed to have been a temple."—p. 869. Thus far from Mr. Beauchamp, as quoted by Major Rennel.

Major Rennel, himself, has these remarks: "With respect to the nature of the *bricks* in this fabrick, M. Della Valle, and M. Beauchamp, do not agree; M. Della Valle, saying that they were of two sorts, *sun-dried*, and *furnace-*

that each quarter has a peculiar impression: I mean, that we find but one series of letters, and *arranged in the same manner* in one place.

"Besides the bricks with inscriptions, there are solid cylinders, three inches in diameter, of a white substance, covered with very small writing, resembling the *inscriptions of Persepolis*, mentioned by Chardin. *Black stones*, which have also *inscriptions*, on them, are also met with. These, I was told, were found at Broufrd, which is separated from Makloube by the river." From the text of M. Beauchamp.

[N. B. *Makloube* is supposed, by D'Anville, to be on the *east side* of the Euphrates; which is the part of the ancient site of Babylon, most examined by modern travellers.] Note of the Editor.

* "The quantity of bitumen that must have been employed in building Babylon, is scarcely credible. Most probably it was procured from *Hit*, on the Euphrates, where we still find it. The master-mason told me, that he found some in a spot which he was digging about twenty years ago; which is by no means strange, as it is common enough on the banks of the Euphrates. I have, myself, seen it on the road from Bagdad to Juba, an Arabian village, seated on that river."—[Thus far this note is taken from M. Beauchamp. What follows is from Major Rennel.]—"We may remark on this report of the mason's, that *Diodorus* says, that great quantities of bitumen *flow out of the ground at Babylon*; that these springs supplied it for the building of the city; and that it was in such plenty, that it was even used for *fuel*. (2. 1.) Herodotus, however, brings it from *Is* or *Hit*."

baked ; but M. Beauchamp, describes but one sort ; that is, the latter. He says, however, that in order to get at these, it is necessary to *dig* into the *earth*, where they are found in *layers* ;—but may not this earth be the mass, which Della Valle describes, as being composed of *sun-dried* bricks ? It is certain that the ruin named *Aggarkuf*, near Bagdad, which seems to possess the characteristick of a Babylonish building, (as having *reeds between the courses*,) is composed *chiefly* of sun-dried bricks. Mr. Ives observed, that those which *remained* in the building were *softer* than those, which lay scattered about among the rubbish, at the foot of the ruin.” 371.

“ It appears equally unaccountable, that Della Valle, should have overlooked the layers of reeds, osiers, or whatsoever was placed between the courses of masonry in the tower ;* as that Beauchamp should not have observed the *sun-dried bricks* and *clay-mortar*, in the same place. Yet we cannot doubt but all three exist amongst the ruins in question. It is no new observation, that one man observes one thing, and another, another.”—372. “ The bricks of which the fabrick seen by M. Niebuhr were built, were *furnace-baked*. Nothing is said concerning the nature of the cement, nor are any *reeds* mentioned, either by P. Emanuel or M. Niebuhr.” 376—377.

“ As we do not hear of any remains of the *superstructure* of the *walls* of Babylon at this time, it may be concluded that the materials of them have been generally removed, to build other cities. But this was not done in *very early* times ; for although the city declined soon after the foundation of Saleucia, and was a deserted place in the time of Pliny ; yet it appears that the city *walls*, as well as the tower of *Belus*, remained, although not entire.— We learn both from Niebuhr and Beauchamp, that the foundations of *buildings*, and apparently of the *walls* of the city also, (but particularly from the former) *continue* to be dug up, and to be transported to other places, for the purposes of building ; that large heaps of rubbish are discernible in many places ; and that the square bricks of large dimensions (such as are above described in the *temple* of

* He speaks only of broken reeds or straw, in the mud-cement between the sun-dried bricks.—Note by Major Rennel.

Belus, and in the *walls* of the ruined *palace*,) are scattered over the tract round *Helleh*. These bricks, too, are to be traced among the buildings of Bagdad and other cities ; as we find Roman bricks in and about those towns, that were formerly Roman stations, in Great Britain. The *palace of Chosroes* in Ctesephon (now called Faulk Kesra,) appears to have been built of bricks brought from the ruins of Babylon ; as the dimensions are so nearly the same, and the proportions so singular. Those who have made it their business to examine into such matters, have always found that the materials of ancient cities have been employed in building new ones, in cases where new foundations have been established in the same neighbourhood ; and where such materials could conveniently be transported by *inland navigations*, they are found at very great distances from their ancient place : (much farther, indeed, than Bagdad or Saleucia are from Babylon.) In effect, the remains of ancient cities, throughout the world are those only, which are either too firmly cemented to be worth the trouble of separating ; too far distant from a convenient situation to be worth the trouble of transportation ; or which, from their nature, are not applicable to ordinary purposes."

"In the above point of view, the Babylonians, Romans, and Bengalees, may be said to have provided a stock of materials for building, for the use of posterity ; from the durable nature of the bricks :* but the bricks used in the building of some modern cities, seem to have been rather for the use of the age in which they were made, than for posterity.

"The ancient bricks that have preserved their durability are of various *dimensions*. Those made by the Romans had their want of thickness made up in length and breadth. The Bengal bricks had *all* their proportions very small. The Babylonish bricks, are, as far as we know, the *thickest* and largest of all ancient bricks ; however, they do not appear to have exceeded by more than one-fourth of an inch in thickness, that of the thickest of the modern bricks ; so

* [Major Rennel gives here, as an example, the materials furnished by Goree, the ancient capital of Bengal, to Mauldah, Moorshedabad, Dacca, Monghir, and the new citadel of Fort William, at Calcutta.]

nearly do the experiments of ancient and modern times agree. The dimensions of the furnace-baked bricks at Babylon, are reported pretty much alike by Beauchamp and Niebuhr. The first gives them at one foot and three lines square, by three inches in thickness; the latter at a foot square, but omitting to state the *thickness*, otherwise, than that they were nearly of the same standard with our bricks. M. Beauchamp's account, from the complexion of it, must be regarded as the most accurate; and it being of course in French measure, the bricks may be reckoned rather above thirteen inches square, by nearly three and a quarter thick, in English measure." "Mr. Ives says, that the bricks in Fauk Kesra,* are *about* a foot square, by three inches thick; which general correspondence of dimensions, may be regarded as a proof of their having been originally brought from the ruins of Babylon. The sun-dried bricks in Aggarkuf, according to Ives, were of the same length and breadth as the others; but not being intended for the furnace, there was no necessity for *reducing their thickness* to that standard, which experience had shewn was convenient for baking in the *fire*; they were, therefore, four and a half inches (instead of three,) in thickness. Possibly, if the matter had been examined into, the *sun-dried* bricks in the tower of Belus, would also have been found much thicker than the baked ones.†

"M. Beauchamp seems to take it for granted, that cement, either of *bitumen* or *lime*, was employed in *all* the masonry in ancient Babylon. But we do not conceive that the *private* buildings were constructed with such cement, because of the perfect and whole state in which the *bricks* are found that were taken from the ruins in general; and

* See Major Rennell's note on this building, p. 387.

† [The author here refers to a *sun-dried* brick in the British Museum, said to have been taken out of the ruin, called the tower of Babel, (no doubt, he says, Aggarkuf;) which appeared to be twelve and a half inches square, and four and a half in thickness. *Broken reeds* appear (he says) in some parts of it; but if they were really mixed with the clay, it must be in a very small proportion, from the very great weight of the brick; and it appeared to him probable, that the reeds were nothing more than a part of those reeds on which the brick lay, while in its soft state.] EDITOR.

because the Babylonians appear to have had a cheaper substitute for it in the *clay-mortar*, mentioned by Della Valle ; and in that (of what kind soever it might be) which is spoken of by M. Niebuhr. From what Della Valle also reports, we should conclude, most decidedly, that *certain parts only* of the publick buildings (including the city walls) were cemented with *bitumen* ; perhaps those which were exposed to the weather or to inundations. And by what we shall presently adduce, there appears to have been no necessity for an indiscriminate use of the bitumen.

“ M. Niebuhr says, that the *large* bricks, which were remarkably well burnt, ‘ had been *laid* in matter that had so *small a degree of tenacity*, that they were *easily* separated ; and that without breaking them.’ But, on the contrary, in the ruins of the palace seen by P. Emanuel, ‘ the construction was of so *solid* a nature, that it was scarce possible to separate them.’ He does not, however, appear to have described the *nature* of the cement ; it was probably *bitumen* ; but he are not possessed of sufficient knowledge on the subject, to enable us to determine on the degree of cohesion belonging to that substance, when used as a cement for bricks.”*

“ As to the *lime* cement, very little of that appears to have been used.” 377—382.

“ The nature of the mortar used in the ancient fabricks seen by Della Valle and Ives, proves, that the Babylonians built [also] with *clay* mortar ; as is practised by the Bengal people, and by those of Bagdad, (the modern Babylon.) And this reminds us of a passage in Genesis, (xi. 3.) relating to the building of the tower of Babel, which might possibly have been a part of the *original* city of Babylon ; perhaps the very tower of Belus so often mentioned, before it took the form described above. It says, ‘ they had *brick* for stone, and *slime* for mortar.’ ” p. 382.

“ *Herodotus*, in his account of the building of Babylon says, that the Babylonians intermixed *reeds* with the *bitumen*, used as cement in building the walls ; which were made of bricks *baked* in a furnace. We collect from his description, that these layers of reeds were introduced at certain

* [Major Rennell here gives examples of bitumen having been used in ancient times for a cement.] EDITOR.

distances between the courses of bricks, in order to render the *masonry* more compact. The text says, at every *thirtieth* course; but we conceive that the number is corrupted, because M. Beauchamp says, that the *osiers* (or whatever was meant by the reeds of Herodotus) are placed between every *two* layers of bricks, in the *tower* of Belus; and in other great ruins higher up, he says, that the osiers were only laid '*occasionally*.' As the mode of building with reeds between the courses appears to have prevailed only amongst the *ancient* Babylonians, we may reasonably conclude, that Aggarkuf is of Babylonian origin, by its having this characteristick mark in it. In this ancient and very singular fabrick, Mr. Ives and others, found reeds or rushes at every sixth, seventh, or eighth course of *sun-dried* bricks. No bitumen was used there; for Mr. Ives drew out the reeds from the wall with ease: a proof, that they were not laid in any tenacious kind of cement; on the contrary, he says, that it was no other than '*sand* or *slime*, amongst which *broken reeds were mixed*, as we mix mortar. These, he says, were as *fresh* as if lately placed there; and being less subject to decay than the substance of the wall, they project beyond it, and are therefore fully open to investigation. M. Niebuhr says, they were *layers* of rushes, of *two fingers' breadth* in thickness. Others call them *reeds*, of the kind of which coarse matting is made in that country: and all (but Mr. Ives) agree in saying, that the reeds form *layers* between the courses of brick-work. But it is certain, that Della Valle agrees with Mr. Ives in saying, that broken reeds, or straw, were mixed with the *clay cement*, between the *sun-dried* bricks which he saw, although he does not say they were in layers: this, however, was in the ruin of the tower of Belus. It can hardly be doubted, that by the *broken reeds*, Mr. Ives meant the same thing which others meant by the *layers* of reeds. And it may also be suspected, that what Della Valle saw, was originally the same kind of arrangement; only that the part he dug into might have been overturned, and the reeds thrown into that kind of disorder, which would prevent the appearance he describes; or the disorder might have been caused by the very mode of digging, itself."

“ It is not, perhaps, very easy to determine the *use* of the layers of reeds, where the cement was of so *tenacious* a quality, as bitumen is commonly reported to be ; nor can we reason with any effect on a subject on which we are so little informed. It may, however, be remarked, that as on different occasions the layers were introduced at different distances from each other, each method had probably a reference to some particular object or use, which we cannot understand. Thus in the tower of Belus, M. Beauchamp says, that the osiers were placed at *every* course, but in some other great ruins, only *occasionally* ; and in *both* these instances, the materials were bricks *baked* in the furnace, and laid in bitumen. Again, we find reeds laid in clay mortar between *sun-dried* bricks, at every sixth, seventh, and eighth course in Aggarkuf ; and, also, between the *same* kind of bricks in the temple of Belus, (for Della Valle describes the *same* appearances there, as M. Ives does at Aggarkuf.) So that the practice of using reeds (or some substitute for them) was almost universal. Had they been used *only* with *clay* mortar, we might have concluded that they were necessary, in order to bind together a mass that appeared to be too loosely held by the cement alone ; but this supposition is done away by the practice of using the same reeds with the cement of *bitumen*. We can perceive a slight advantage in the use of reeds, where *mud* cement was used ; and as this mode of building, no doubt, was used long before the time when bitumen began to be used as cement in Babylonia, it is possible that the custom may have been blindly transferred to a case where the reason of the thing should have rejected it, as may be seen on other occasions. As the reeds added strength to the wall cemented with *clay*, they might expect the same effect from them in one cemented with *bitumen* ; admitting that the reeds did not, in any shape, counteract the cohesive quality of the bitumen : but it is certain, that it did not require any such aid. But after all, there may be a quality in bitumen, which may prevent its hardening where the *air is absolutely excluded*, as in the middle of a wall ; and the reeds may have disposed it to harden. When exposed to the air, it is known to grow hard very soon.” p. 383—385.

“Should the antiquities of Babylon become an object of curiosity amongst the learned, there is little doubt but that it might be abundantly gratified, if researches were diligently pursued for that purpose. The position and extent of the city *walls* might probably be ascertained, even at this day ; as no doubt both the rampart and ditch may have left visible traces, although inundations may have raised the general level of the country itself. The delineation and description of the site and remains would prove one of the most curious pieces of antiquity that has been exhibited in these times.” 388.

“M. Beauchamp confirms this remark by Major Rennell. He says, ‘I imagine medals must be found in the ruins of Babylon, if sought after ; but the Arabs pick them up only when they know Europeans are desirous of them. One of copper was brought me whilst I was there. In comparing it with different Parthian medals, I observed that all the heads of the *latter* bore a kind of *mitre* ; that of the *former* a crown of flowers.’ [N. B. Major Rennell adds here, in a note, that ‘in the army of Xerxes, the Cisians, or Susians, wore mitres ; but not the Medes or Persians. Polym. 62.’] M. Beauchamp then continues : ‘The master workman informed me, that there were *three cities* in which *antiquities* are found, Babel or Makloubé, Broussa, two leagues south-east of Hella, in the desert, and Kaïdis, (Al Kadder) still farther distant than Broussa. I was told that many *marble statues* were found in the latter ; but it is dangerous to go thither without a strong guard.’ ” 369—370.

Here we close the extracts from Major Rennell.*

* The title of this work runs thus : “The Geographical System of Herodotus examined and explained, by a comparison with those of other ancient authors, and with modern geography ; in the course of which are introduced Dissertations on the itinerary *stade* of the Greeks, the expedition of Darius Hystaspes to Scythia, the position and remains of ancient Babylon, the alluvions of the Nile and canals of Suez, the Oasis and Temple of Jupiter Ammon, the ancient circumnavigation of Africa, and other subjects of History and Geography. The whole explained by eleven maps, adapted to the different subjects ; and accompanied with a complete Index. By James Rennell, Fellow of the Royal Societies of London and Edinburgh ; and late Major of Engineers, and Surveyor General in Bengal. London, 4to, 1800.

This work, we are happy to say, may be found in the Boston Athenæum.

Neither the limits of this journal, nor the state of the libraries in this vicinity, (though perhaps better provided for this purpose, than those of any other place in the United States) permit a farther search after materials illustrative of the subject of this article.

It may be useful, however, to those who wish to pursue the inquiry, to mention, that the *London Literary Panorama*, volume second, new series, published in 1815, notices a new work in 4to, by a Mr. Lichterstein, published at Helmstad, entitled *Tentamen Palæographico Assyrio-Persicæ*; or an attempt to explain the ancient writing of the Assyrian-Persian empire, of which a second volume, also, has been promised to the publick. The article in the *Panorama*, which notices this work, says, that extracts from it have been given in the *London Classical Journal*, for April, 1815. We find in the *Panorama*, that the characters, which most English modern authors have termed *arrow-headed*, are there, also, called *nail-headed*; and the arrow-head is, also, termed the *wedge*. Mr. Lichterstein has proposed translations of inscriptions of *cuneiform writing*, "which occupy many lines; for the accuracy of which, he depends on Le Bruyn, Niebuhr, &c. "These inscriptions do not reveal (it is said) historical events, or afford information on the ancient state of Persia: they prove to be mostly reiterated praises of Sultan Darius, (if Mr. Lichterstein be correct) equally without accuracy and energy." See p. 434-439 of the *Panorama*, as above.

In the *Athenæum*, a magazine published in London, in 1807, by John Aikin, vol. I, p. 137, is the following article:—

"*Arrow-headed Characters*.—About half way between Bassora and Aleppo, near a place called Argia, are, or were, two centuries ago, some ruins containing inscriptions in the character which has, of late, excited so much attention among our oriental scholars. Some of these letters are described as resembling a *pyramid* on its side, evidently the *arrow-headed* letter; others like a *star*, with *eight rays*. They were like those from Babylon, upon *bricks*; and also upon *black marble*."

The following observations taken from one of the newspapers, are ascribed to Dr. Mitchill of New York.

“ During this expedition he visited the territory on which ancient Babylon is supposed to have stood, and succeeded in bringing away fragments of the ruins which overspread the ground. These consist of several of the bricks which are supposed to have been materials in the temple of Belus, some of the cement with which they were connected, and a parcel of the broken reeds which were interposed with the mortar, to render the structure more firm and durable. The bricks are in good condition, even after the lapse of three thousand years and more. They are of large size, being thirteen inches square, and four inches thick. Being now of the softer quality, they appear to have undergone some process of decay ; but they bear traces of fire, that is, of having been kiln burned as well as sun burned. Near the middle of each is a parallelogram of four and a half inches by six, impressed with literal or hieroglyphical characters. They appear to have been very regularly and beautifully done. The characters are different from any known alphabet. All the lines are straight, and there are no crooked strokes. They are evidently arranged in perpendicular columns. All the bricks seem to be marked with the same signs. Of these signs or characters, there are seven vertical rows, and seven distinct marks in each row, making forty-nine in the whole. Some of them are repeated several times.”

“ It is believed that they are not susceptible of interpretation by any man living ; but that they extend our researches far beyond the era of history or the period of known symbols. This conclusion, derived from the face of the articles, confirms the genuineness of the offering Captain Austen has made to the learned world, by bringing home these wonderful remains. The scholar may reflect, that the materials survive both the language spoken at the time they were moulded, and the characters which represented the sounds of that language. We may even look back through the vista of ages to the time when ‘ the whole earth was of one language,’ and when ‘ the city and tower of Babel’ were begun ; when the sons of men said one to another. ‘ let us make brick and burn them

thoroughly ;' and when 'they had brick for stone, and slime had they for mortar.' All may, without any violation of probability, suppose these relicks to be parcels of the primitive brick, and the inscriptions or rather impression on their surfaces, to be the memorials of that remote time 'when the whole earth was of one language and one speech.' And he may further conjecture, that both the language and writing are illegible and unknown, because the 'Lord did there confound the language of all the earth.' Monuments of this kind are now submitted to the view of our admiring citizens, with all their confirmatory evidence. The pilgrims of Persia, by permission lately obtained from the military despots of the country, made devout visits to the tomb of the prophet Daniel, situated many miles in the desert. Our intrepid and intelligent countryman has brought to New-York, a brick, with its inscription, from the door of that resort of the religious. It is of secondary moment whether the legend be true or fabulous. Such a place is at this day famous in the East, and a relick of it is presented to the curiosity of the West."

"There are various other remnants of oriental antiquities, which the writer forbears at this moment to mention."

The data above exhibited, appear to admit of the following conclusions.

After the bricks, in question, were formed in a mould, such of the bricks as were intended to exhibit characters, received the impression of these characters by means of a stamp. Some of the bricks were merely sun-burnt ; but if the use for which the bricks were destined, was such, as to require hardness, fire was employed. If the bricks were to be coloured, the colour was applied before the burning. Respecting the varnish (or rather glazing) it appears to have been the result of a superficial vitrification, such as bricks often receive by accident, rather than design.

As to the *cement*, the nature of it seems to have been varied according to the case. Vegetables were often combined with two species of the cement ; namely, those of mud and of bitumen. The mud cement was evidently ren-

dered more firm by it ; as mortar is rendered more tenacious by intermixture of hair. The vegetables did not render the like service to the bituminous cement ; yet it lessened the consumption of bitumen, by the amount of the space occupied by it ; and, perhaps, procured some other advantages, like those hinted at by Major Rennell. Where vegetables were solely employed, as, perhaps, was sometimes the case, in order to separate the courses or layers of bricks ; it may have happened with a view to afford passage to the air or to rain-water ; or, perhaps, to save some expenditure in bricks. In some instances, these vegetables may have remained after the mud, with which they had been connected, had disappeared ; the dryness of the climate preventing the corrupting effects of transient rains.

Many of the bricks appear in various ages (including our own times) to have been carried away to be used in new buildings in other places ; but the facility with which these bricks seem to have been manufactured, where the proper materials were at hand, leads us to suppose, that they have sometimes been manufactured on *new spots* for new buildings, under the influence of Babylonian governments.

The power of the sun in drying bricks, is very considerable in Mesopotamia. The rains which usually fall also in that country, though they may be violent, are unfrequent ; the bricks thus formed, without exposure to wet, are remarkably durable, if guarded with proper precautions. The same may be said of the sun-burnt bricks of neighbouring countries, similarly circumstanced.

The expense of the stamps, (whether formed of wood, earthen ware, dried mortar, stone, or metal) and the expense of applying them, were each so small, that if the mechanicks of antiquity were as blind followers of old customs, as they appear often to have been in later ages, these stamps may have continued in use during long periods, for new works, merely from the love of imitation. Superiour authorities, also, may have directed the use of ancient stamps, in order to keep up an air of mystery, or of antiquity, or for other purposes.

As to the *original* object of the characters stamped upon these bricks, it is necessarily a matter of difficulty, if not of impossibility, to ascertain it. We know, however, that

bricks properly prepared, will receive characters to an extent sufficient to have supplied materials for the immense fabricks of Babylon, with infinitely more facility, than belonged to an equal quantity of wood or stone ; and that it can scarcely, therefore, be called *a loss of labour* to have buried, and especially to have buried in loose mud and vegetables, bricks thus ornamented. But such a measure may have been peremptorily directed from superstition, and other motives, by the higher powers of the country ; or may have been adopted voluntarily, and especially with a view to flattery, by the mechanicks or superintendants employed in these buildings. Where the bricks were designedly *exposed to view*, we can see various motives for having them impressed with figures ; for we know that stone-work has often been laboriously wrought with the same view, by the direction of princes, priests, moralists, astrologers, chronologers, historians, and men of various arts and professions, as well as by opulent or fanciful individuals, and mystical corporate bodies.

As to the *nature* of the characters under consideration, whether they merely represented *words*, by means of letters or syllables, or other signs for words, or figured *things* and their incidents and mutual relations, directly, analogically, or arbitrarily ; or whether they were merely emblematick, masonick, or talismanick, we are not, perhaps, at this distance of time in a condition to ascertain. The talents, however, of the decipherer and antiquarian are often singularly happy on these occasions, notwithstanding they are often singularly fanciful. But the attention of oriental scholars to this subject, appears to have been recent, and the proper numbers of specimens of these characters has scarcely yet been laid before them, to enable them to draw just conclusions. It is also unfortunate for them, that these characters are much oftener found stamped on solid substances, than written on ancient books ; for as far as we yet know, the specimens from books, spoken of by Sir John Malcolm and Chardin, may have been *copied* from the face of solid buildings. With respect to M. Lichterstein, who seems to have apprehended that he has detected the meaning of some of these characters, so as to form a continued sense out of them ; he may have contented *himself*, but we have yet to learn that he has satisfied *others*.

Thus much, however, we can in any event say of these characters, in unison with Dr. S. L. Mitchill ; namely, that they derive their origin from an *extremely high antiquity*.

We may add, however, as a limit to this supposition of extreme antiquity, that the immense masses of ancient buildings, which these stamped bricks pervade, imply great cotemporary population and wealth ; which no less imply a sufficient lapse of time in the progress of human affairs, in order to bring their construction within the ages when men had become formed into vast societies.

At the present time, the pretensions to very high antiquity in any nation, whatever, are justly questioned by men in no degree influenced by the scriptures. Even in France, some persons have lately appeared, holding the foremost rank in the search of practical proofs of the origin of man, and of his institutions and works ; who are to be considered as of this description.

These pretensions to antiquity, indeed, must chiefly be founded on one or more of the following points ; viz. astronomical records, civil records, or certain reliques of antiquity. As to *astronomical records*, we have much to admire in the rules possessed by several of the oriental nations for calculating eclipses, and in the positions, which several of them have early assigned to certain moveable points in the heavens. But M. La Place, who has so much attended to these subjects, and particularly to that of secular equations, and who has duly read whatever has been urged by M. Bailly, and other favourers of the claims of eastern astronomers ; has decided against any conclusions drawn in behalf of the very great antiquity of oriental astronomy. Whoever, also, will consult the Chinese history, published by M. de Guignes (the nephew) will see how vague is the evidence for a certain ancient conjunction of the planets, said to have been observed by the Chinese.—In the next place, as to the *civil records*, which may be held to denote extreme antiquity ; the mutilations produced by time and by wilful falsehood, are so many, that little can be depended upon under this head of evidence. Without affirming with Mr. Hume, that the first page of true history begins with Thucydides ; we may safely affirm, that no true pagan history ascends beyond scripture dates. Lastly, as to *reliques of antiquity*, they are of several descriptions.

The *casts*, or separate classes of society in Hindostan, for example, are recognized by very ancient authorities, and yet certainly required some length of time to procure for them a quiet basis in the minds of the people; and though it cannot now be told, whether they were fixed by military, religious, or civil means, and particularly by the help of the incorporation of separate nations; yet there is still space enough left in the remote chaotick times of human chronology, for the establishment and consolidation of such institutions. As to the succession, in turn, of various nations to power, by the extinction of that of their predecessors; much may often be accomplished in a few short centuries. The rapid decline of American Indians, for example, before the face of European conquerors and agriculturists; the revolutionary progress of the four great monarchies noticed by scripture, and by European historians; and lastly, the successive overturns given to various nations in Europe, Asia, and Africa, by the barbarians of the north and east, are sufficient evidences of this fact. If we look at another source of information under the head of reliques, we shall find, that another description of French writers, after their extensive inquiries into the changes of the surface of the earth, have acknowledged, that man appears to be an animal of recent creation. Neither the remains of the skeleton of man, nor the fragments of his more durable operations, are to be found where history or judicious conjecture cannot suppose them to have been placed within the limited periods of sober chronology. The earth shall be allowed, with the seas, the sun, and the planets, to have had a long existence; but man, himself, is young: younger even than various fishes and other animals, as well as younger than many vegetables now found amalgamated in masses in the shape of coal, or dispersed under separate but modified forms. The Mosaick creation, in short, exhibited only late arrangements and renovations, chiefly applicable to the *use* of man, the *new* inhabitant of the earth, subsequent to some great convulsion, of which there have been many and mighty upon the face of the globe we now inhabit as masters under Providence.

But to return to these characters of Babylonian extraction, it may be observed, that from the few specimens of them yet seen here, we are not authorized to form more

than a few universal rules respecting them. We know first then, that *curved lines* are never found among them; every change of direction in them being *angular*: and this is an evident advantage in carving stamps for soft bodies and figures in hard ones. In the next place, these characters vary from many others in having *broad surfaces* intermixed with their lineal forms; and though the *edges* of these *surfaces* are a little curved, to imitate the arrow-head, yet the general form of them is *triangular*. In the last place, the parts of these characters which are merely *lineal*, are comparatively very *slender*, by which means the stamp of them enters with less resistance into soft substances, and some labour is saved in carving their form in the case of other substances which are hard.—The universality of the arrow-headed form employed in the bricks, and the care commonly observed in curving the edges of it, though attended with some difficulty in the execution; seem to indicate either a military origin for the character, or the necessity of preserving this form as being that of a favoured emblem.

As to the supposition that these characters have a *Chinese origin*, one remark only need be made; namely, that the facts which contradict it are at hand and evident. We need only consult the Chinese writings found upon tea-chests, books, and papers coming from China; as also the works of Messrs. Marshman, Hager, and others, to be seen in Boston, to know, that the arrow-headed characters are not related to those of China, and have only a few casual resemblances to them, beyond that of affecting angular forms, which is common to the characters of many nations. If this remark be not held of sufficient force, we may add, that history has no sufficient traces, that the Chinese have at any time reached the Euphrates, or even the Tigris, either as conquerors, prisoners, teachers, or artists; or that any Mesopotamians ever travelled to China or even to Chinese Tartary, attracted by the fame of the Chinese, in order to learn and bring back any of their practices and manners.

It now only remains to say, that much praise is due to Captain Henry Austen, for his spirit in undertaking his expedition, and in importing the specimens of the character under notice, as one of the fruits of it. The good educa-

tion received by various captains of vessels in American employ, and the zeal in favour of promoting knowledge shewn by many of them, joined to their multiplied visits to distant countries, must soon produce sensible effects in favour of their own characters and that of their country.

P.S. The want of an entire copy of Rich's late account of Babylon, has made it useless to do more than refer to the extracts from it given in this Review for Jan. 7, 1816, which were taken from the Monthly Mag. for Oct. 1815, where they were accompanied with some engravings on wood. That account sufficiently confirms what is said in general on the subject of the arrow-headed characters in the foregoing pages; and shews, that the subject is not new to the oriental scholars of Europe. We shall be thankful to them for their farther researches on this subject; all of which will probably tend to establish the fact, that the arrow-headed character holds a high rank among the *signs* of the ancients, but that what regards their origin may always remain a matter of uncertainty, even though we should arrive at some knowledge of their meaning and applications. If we look at scriptural accounts, we must perceive, that from the time when Nimrod became a mighty hunter, to the time when Babel was built, includes a period when many woods in that neighbourhood must have disappeared; and when men must have multiplied on the principles on which they multiply in our time in new countries. But whether they had so multiplied, as to be able to build any of the several vast fabricks of which each now disputes the honour of being supposed to be the scriptural tower of Babel, is not for us to decide.

CHINESE MAXIMS.

THE following maxims are taken from M. Amyot's "*Memoires sur les Chinois.*" They are objects of curiosity as specimens of the habits of thinking among the Chinese, and particularly as shewing how far their notions, in regard to the sex, differ from those which prevail among us.

The emperour can do every thing for the publick good, but nothing contrary to justice.*

* The King can do no wrong. English maxim.